

EX PARTE OR LATE FILED



**Building The
Wireless Future™**

CTIA

Cellular
Telecommunications
Industry Association
1250 Connecticut
Avenue, N.W.
Suite 200
Washington, D.C. 20036
202-785-0081 Telephone
202-785-0721 Fax

April 2, 1998

RECEIVED

APR - 2 1998

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Magalie R. Salas
Secretary
Federal Communications Commission
1919 M Street, NW Room 222
Washington DC 20554

Re: Ex Parte Presentation
CC Docket # 96-149 (CPNI)

Dear Ms. Salas:

On Wednesday, April 1, 1998, Brian Fontes, Senior Vice President, Policy and Administration, Michael Altschul, Vice President/General Counsel, and John Scott, of Crowell and Moring, representing the Cellular Telecommunications Industry Association ("CTIA"), met with Lisa Choi, Dorothy Attwood and Tonya Rutherford of the Federal Communications Commission, Common Carrier Bureau, Policy Division concerning the above-referenced proceeding. The parties discussed the meaning and effect of paragraphs 77 and 85 of the Commission's Second Report and Order for CMRS carriers.

Pursuant to Section 1.1206 of the Commission's Rules, an original and one copy of this letter are being filed with your office. If you have any questions concerning this submission, please contact the undersigned.

Sincerely,


Cleveland Lawrence III

Cc: Dorothy Attwood

No. of Copies rec'd 021
List A B C D E



EX PARTE OR LATE FILED



**Building The
Wireless Future™**

CTIA

Cellular
Telecommunications
Industry Association
1250 Connecticut
Avenue, N.W.
Suite 200
Washington, D.C. 20036
202-785-0081 Telephone
202-785-0721 Fax

April 2, 1998

RECEIVED

APR - 2 1998

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Magalie R. Salas
Secretary
Federal Communications Commission
1919 M Street, NW Room 222
Washington DC 20554

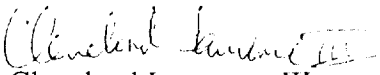
Re: Ex Parte Presentation
CC Docket # 96-149 (CPNI)

Dear Ms. Salas:

On Wednesday, April 1, 1998, Brian Fontes, Senior Vice President, Policy and Administration, Michael Altschul, Vice President/General Counsel, and John Scott, of Crowell and Moring, representing the Cellular Telecommunications Industry Association ("CTIA"), met with Lisa Choi, Dorothy Attwood and Tonya Rutherford of the Federal Communications Commission, Common Carrier Bureau, Policy Division concerning the above-referenced proceeding. The parties discussed the meaning and effect of paragraphs 77 and 85 of the Commission's Second Report and Order for CMRS carriers.

Pursuant to Section 1.1206 of the Commission's Rules, an original and one copy of this letter are being filed with your office. If you have any questions concerning this submission, please contact the undersigned.

Sincerely,


Cleveland Lawrence III

Cc: Dorothy Attwood





Building The
Wireless Future

CTIA

Cellular
Telecommunications
Industry Association
1250 Connecticut
Avenue, N.W.
Suite 200
Washington, D.C. 20036
202-785-0081 Telephone
202-331-8112 Fax
202-736-3213 Direct Dial

Thomas E. Wheeler
President / CEO

April 2, 1998

The Honorable William Kennard
Chairman
Federal Communications Commission
1919 M Street
Washington, D.C.

Dear Chairman Kennard:

Recently, the Public Safety community submitted to the Commission an *ex parte* response to proposals for a "strongest signal" technology in the E9-1-1 rulemaking proceeding (see attached letter from James R. Hobson to Magalie Roman Salas, Federal Communications Commission (Feb. 18, 1998)). CTIA submits this *ex parte* filing in support of the Public Safety submission. The Commission should note that wireless carriers' interest is solely in getting the call completed to the public safety answering point ("PSAP") and assisting the Commission in resolving this issue -- wireless carriers derive no revenue from 9-1-1 calls and, because the strongest signal proposal is handset-based, it imposes no costs on carriers.

CTIA strongly supports the concerns presented by the Public Safety community and urges the Commission to consider the technical uncertainties associated with the strongest signal proposal. In its letter, the Public Safety organizations highlight several potential technical ramifications that could negatively impact the benefits of E9-1-1 if the strongest signal proposal is implemented without further technical analysis. In sum, the Public Safety community expressed concerns that:

- The use of a strongest signal technology will reduce the ability to transport 9-1-1 calls by approximately 50% by preventing the carrier that has the weaker RF signal from processing any calls. A majority of the time, both cellular carriers (and any other PCS carriers) will have available 9-1-1 trunks and voice channels that will not be utilized if all 9-1-1 calls are sent to the strongest signal of a single carrier. Correspondingly, other calls going into that mobile switching office may be blocked due to the high volume of 9-1-1 calls that often accompanies roadside accidents.
- The strongest control channel identified by the strongest signal technology will not always deliver the strongest voice channel. The strength of the control channel does not give any indication about the reliability of the corresponding voice channel.



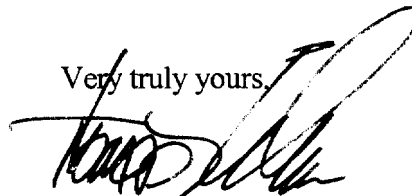
April 2, 1998

- The strongest signal concept may cripple the ability of carriers to market and deploy quickly 9-1-1 location capabilities. Currently, some carriers are stepping up the deployment of Phase II location technologies and will use early rollout of this capability as a marketing tool to attract customers. Carriers will be reluctant to accelerate Phase II implementation, however, if the strongest signal concept would allow their systems to be bypassed, giving their customers no control over the use of the location features that may be available on their own carrier's system. In addition to the competitive benefits of allowing the marketplace to promote location capabilities, the Public Safety community has stated that "it is better to receive a 9-1-1 call with Phase I and/or Phase II location technology than one with a slightly stronger signal but without Phase I and/or Phase II technology."
- A better way to address the problem of the "coverage holes" discussed by the Ad Hoc Alliance may be, at the customer's discretion, to simply program wireless handsets for A/B or B/A.
- The report on the strongest signal proposal demonstrates some confusion on behalf of the proponents of the proposal. For instance, the report confuses the issue of "dropped calls," which are largely due to a caller moving between cell sites. Regardless of strongest signal technology, calls will be dropped if a caller moves too far away from the existing cell site and cannot be picked up by an adjacent facility. Furthermore, the report misstates the standard used to determine which control channels are scanned by cellular phones.

CTIA agrees with the Public Safety organizations that the issues delineated above must be resolved before the strongest signal proposal is adopted as Commission policy. On March 20, 1998, the Ad Hoc Alliance filed a report prepared by an engineering consulting firm (*i.e.*, Trott Communications) in response to the Public Safety *ex parte* filing. As demonstrated by the Alliance's reliance on Trott, many of the issues surrounding the strongest signal proposal are technical issues that are handled most appropriately in industry standards forums. The Commission also should carefully review an additional concern that CTIA has identified. According to the Ad Hoc Alliance, the strongest signal proposal requires only a minor change to analog wireless handsets. Since these mobile units presently do not screen dialed digits, however, CTIA urges the Commission to carefully review the complexity of the requested change, and the need for additional industry standards work. Finally, without cell sites, no emergency calls can be completed. The Commission must act to enforce the Communications Act provisions that facilitate the siting of these lifesaving antennas.

The last two years of hard work involved in implementing E9-1-1 should not be derailed by a proposal that, in several instances, is technically unfeasible and inconsistent with the public interest.

Very truly yours,



Thomas E. Wheeler

DONELAN, CLEARY, WOOD & MASER, P.C.

ATTORNEYS AND COUNSELORS AT LAW

SUITE 750

1100 NEW YORK AVENUE, N.W.
WASHINGTON, D.C. 20005-3934

OFFICE (202) 371-9500

TELEPHONE (202) 371-0910

FEDERAL COMMUNICATIONS
COMMISSION
OFFICE OF THE SECRETARY

RECEIVED
FEB 23 '98

February 23, 1998

Magalie Roman Salas
Secretary
Federal Communications Commission
Washington, D.C. 20554

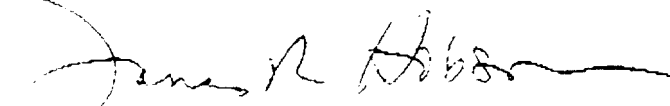
Re: CC Docket 94-102, ex parte communication

Dear Madame Secretary:

Submitted herewith for filing, pursuant to Section 1.1206 of the Rules, are an original and one copy of "Public Safety Response to the Alliance Trott Report." The submission is on behalf of the National Emergency Number Association ("NENA"), the Association of Public-Safety Communications Officials-International, Inc. ("APCO") and the National Association of State Nine-One-One Administrators ("NASNA").

Please direct any questions to the undersigned.

Sincerely,



James R. Hobson

cc: Ari Fitzgerald, Office of the Chairman; John Cimko, WTB

Public Safety Response to the Alliance Trott Report

February 23, 1998

This statement from three national public safety communications organizations¹ is in response to the "Trott Report" of January 27, 1998, which was prepared for the Ad Hoc Alliance ("Alliance") for Public Access to 9-1-1. As the Commission is aware, there is an ongoing debate between the wireless industry and the Alliance as to the technical merits of "strongest signal" and whether or not a new standard is needed to implement it. As requested by the Commission, public safety and the wireless industry have met with the Alliance on several occasions and have formed the Wireless E9-1-1 Implementation Ad Hoc ("WEIAD") to address wireless 9-1-1 issues, including the Alliance's proposal.

We have several concerns, from a public safety perspective, regarding the "strongest signal" concept. The wireless industry and the 9-1-1 service providers are building 9-1-1 trunks from the mobile switching offices to the 9-1-1 tandems, engineered to support a P.01 grade of service, as is the norm for wireline. We provision trunk groups by region in order to enable default routing of calls in the event of an ANI failure, as well as to provide a choke-point to limit the debilitating effects (on the PSAP) of large spikes in call volume; again, as is the practice with wireline 9-1-1. Specific trunk groups are assigned and circuits are sized for each individual carrier between the cellular mobile switching offices and the 9-1-1 tandems.

Thus, the two wireless cellular carriers in each licensed service area provide not only separate voice channels, but also separate 9-1-1 trunks. But this useful duplication of capacity would be lost in the Alliance proposal. By design, "strongest signal" would totally eliminate the carrier that has the weaker RF signal in a given area from processing any calls and force all 9-1-1

¹ National Emergency Number Association ("NENA"), Association of Public-Safety Communications Officials-International, Inc. ("APCO") and National Association of State Nine-One-One Administrators ("NASNA"). The statement is submitted to the Federal Communications Commission ("FCC"), pursuant to Section 1.1206 of the Rules, as an ex parte communication in the Further Notice of Proposed Rulemaking in CC Docket 94-102, 11 FCC Rcd 18676, where at ¶144 comment was sought on an Alliance proposal that 9-1-1 calls be forwarded to the cellular system with the strongest control channel signal.

traffic to the carrier with the stronger forward control channel (FOCC). Not only will this reduce the ability to transport 9-1-1 calls from the local area by approximately 50%, in addition, 9-1-1 calls from any other point within the region served by the same mobile switching office may also be blocked, regardless of the availability of a perfectly satisfactory voice channel and available 9-1-1 trunks from the other carrier. Furthermore, the strongest control channel will not always deliver the strongest voice channel. If a voice channel is not available at the cell site sector where the strongest control channel is transmitted, the cellular phone will be redirected to another sector and/or cell site which may produce a weaker voice channel than the one assigned by a weaker forward control channel from the other carrier.

Our second concern is that some of the carriers will meet Phase I and Phase II caller location mandates much sooner than others. As the Commission is aware, New Jersey has successfully demonstrated a live 9-1-1 Phase II trial. New Jersey hopes to deploy Phase II in 1998. Texas and other states are also embarking on early implementation of Phase II technology. However, the "strongest signal" concept is having a negative effect on the willingness of the carriers to move forward with location technology prior to October 1, 2001. Carriers who are stepping up first to provide Phase II location are hoping to use the system to increase their market share which, in turn, will help offset some of the costs of location technology. The "strongest signal" concept will cripple the ability to market 9-1-1 location service. What cellular carrier would agree to collect a surcharge for, and build, 9-1-1 location technology if the "strongest signal" rule could cause their system to be bypassed when needed most? And even if we are able to convince the carriers to move forward with location technology, who will take accountability for moving the caller from his carrier of choice, with location technology, to the other carrier which does not have location technology and is, therefore, unable to provide the location data for which the subscriber may be paying a premium?

Our third concern is related to this same issue of caller location. From a public safety perspective, we feel it is better to receive a 9-1-1 call with Phase I and/or Phase II location technology than one with a slightly stronger signal but without Phase I and/or Phase II technology.

The Trott report seems to overlook the fact that signal strength need only be adequate, not the strongest. If you can talk in a normal voice to someone, does shouting make it better? We suspect not. The cell sites and phones need sufficient signal, and if the signal is stronger, then the cell site's power controls the phone to reduce its power. Words like "weak" or "strong" have little meaning because they are subjective. "Stronger" does have meaning because it implies that one signal is being compared to another signal. We disagree with the Trott report that the presence of a weak and inadequate preferred signal will prevent the handset from switching to the non-preferred system. Cell sites have the ability to measure signal level, and there are specific quality thresholds like a carrier-to-interference (C/I) ratio of 18dB, or signal level > -110 dBm. If a phone is locked, it is registering. The cell site responds to every registration to confirm to the phone. If the phone can see the cell site with enough power, and if the cell site can see the phone at or above the thresholds, the phone can register and be confirmed, and calls can be carried. If the phone is below thresholds, registration and calls cannot be completed, and the phone will seek another forward control channel from the preferred carrier or the non-preferred carrier depending on the programming of the mobile unit.

The advantages of Phase I and Phase II must not be underestimated. As we have pointed out on several occasions, "we can't help them if we can't find them." The Alliance "strongest signal" proposal is but a single approach to reaching the goal of, "the call must go through." We fear "strongest signal" will actually have the opposite result. Given the indisputable fact that "strongest signal" will eliminate the weaker carrier, and with it, half of the call handling capacity in the area, it is far less effective than programming cellular phones for A/B and B/A.

"A/B" or "B/A" ("A over B" or "B over A") means that analog cellular phones can be built or programmed to switch to the alternate carrier when the preferred carrier provides no signal or an inadequate signal below the established threshold. This option is available today for the over 50 million existing phones and new phones without a single alteration to hardware, software or their associated standards. We have heard repeatedly from the Alliance about the two cases in California where it was reported that the caller could not reach 9-1-1 on a cellular phone. We still have

unanswered questions about those incidents. Was the phone programmed for A or B side only or A/B or B/A? Did the cellular carrier have available talk channels at that moment in time? Were 9-1-1 trunks available from the cellular mobile switching office to the 9-1-1 tandem at that moment in time? Does the Alliance truly understand that "strongest signal" will actually cause 9-1-1 calls to be blocked if the "stronger" carrier's voice channels are all in use or its switching office-to-tandem trunks are at capacity?

A better way to address the "coverage holes" identified by the Alliance may be to simply program the cellular phones for A/B or B/A. We have proposed this solution to the Alliance but they believe it is insufficient. They contend that the shift from A to B or B to A only occurs when the preferred carrier's signal offers no signal and leaves at risk calls from areas where the preferred carrier's signal is too weak to seize or maintain a voice connection but not weak enough to cause the rollover. We disagree with this contention as stated earlier. The standards which govern AMPS telephones (ANSI/ETSI/TIA-553-1989) clearly describe the process of A/B and B/A on page 2-12. "If the mobile station cannot complete this task on the strongest dedicated control channel, it may tune to the second strongest dedicated control channel and attempt to complete this task within a second 3-second interval. If it cannot complete this task on either of the two strongest control channels, the mobile station may check the serving-system status: If the serving-system status is enabled, it may be disabled (A/B); if the serving-system is disabled, it may be enabled (B/A). The mobile station must then enter the Scan Dedicated Control Channels Task (2.6.1.1)."

There are approximately 35,000 cell sites in the country, and certainly for cellular, coverage is usually not the issue. Frequency re-use and frequency management is the real issue. Carriers have only 3 real tools to manage frequency re-use: antennae type, antennae downtilt, and cell site power level. Most of the cellular build-out that has happened in the last 3 years has been to add cell sites to permit further re-use. Coverage has been growing only gradually, and then only in unique circumstances, like state parks and the Pinelands of New Jersey where the difficult siting issues are. In the most heavily used parts of cellular systems, coverage has been adequate to good.

Carriers usually do not leave blank spots, but are trying to avoid interference. Carriers do regular drive testing of their system to verify "best server" and "second best server". Carriers also use RF modeling and propagation tools to assist in determining appropriate levels to set power at each site.

We also have a fourth concern, that if a channel is lost as result of a moving event, a radial may very well connect the caller to another carrier and another PSAP. The Alliance makes the point that, often, a carrier will assign a voice channel and then release it because the level is too low. We have seen calls dropped on a few occasions, usually several miles from where the channel was originally acquired. "Strongest signal" does nothing to mitigate this phenomenon, which is usually associated with a moving caller. It may be dependent on the caller's direction of travel and the total cellular traffic at that particular moment in time. However, the control channel and up to 19 (typically 16 or 17) voice channels are connected to the same antenna combiner and its antenna. The control channel transceiver and the voice channels transceivers are on par. We agree with the statement in the Trott report in section 3, page 4. The report stated, "We reiterate that the design of cellular systems mandates that control channel signal strength will be less than or equal to the associated voice channel signal strength from the cell site." If the control channel is adequate, then so are the voice channels and a conversation can be carried.

Although we would prefer to leave the issue of standards changes to the wireless industry and manufacturers, we are puzzled by their statement in the Trott report on page 5, section 6, and their statement on page 6, section 7. On page 5 Trott states, "The cell phone today already scans the full list of forward control channels (both A and B system) during its power-on sequence and whenever signal is lost from the preferred system." And then on page 6, "No new standard is needed for this action." That position appears to be in conflict with our copy of the standards approved April 19, 1989. On page 2-11 of ANSI/EIA/TIA-553-1989 standards, section 2.6.1.1.1 "Scan Dedicated Control Channels" states, "If the serving-system status is enabled, a mobile station must examine the signal strength on each of the dedicated control channels assigned nationwide to System A. If the serving-system status is disabled, a mobile station must examine the signal strength on each of the dedicated control channels assigned nationwide to System B."

Nowhere in the standard could we find a process where the full list of forward control channels for both A and B (42 in the U.S., 52 in Canada) are scanned.

This has been the public safety community's basis for assuming that Alliance's proposal would involve a change of standards, and this is why we supported the WEIAD-3 suggestion that the proposal be submitted to the standard-setting body known as TR-45. If our assumption is incorrect, we still believe that only an objective systematic analysis, not undertaken thus far, will determine whether "strongest signal" is worth the reduction by half of the cellular capacity available to transmit wireless 9-1-1 calls, in addition to the other serious problems enumerated above.